

REMARKS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 38-96 are presently active in this case. Claims 1-37 were cancelled by a preliminary Amendment. The present Amendment amends Claim 38 without introducing any new matter or raising new issues that would require further search and/or consideration.

The outstanding Office Action objected to Claim 38 for informalities. Claims 75-96 were rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. Claims 38-65 and 67-74 were rejected under 35 U.S.C. § 103(a) as unpatentable over Reed et al. (U.S. Patent Publication No. 2003/0141453, hereinafter “Reed”). Claim 66 was rejected under 35 U.S.C. § 103(a) as unpatentable over Reed in view of Belcher et al. (U.S. Patent No. 5,436,450, hereinafter “Belcher”).

In response to the objection to dependent Claim 38, this claim is herewith amendment to recite “a horizontal plane.” Since this change is only formal in nature, no new matter has been added nor are new issues raised that would require further search and/or consideration.

In response to the rejection of Claims 75-96 under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement, Applicants respectfully traverse the rejection, and request reconsideration thereof.

The contested passage of independent Claim 75 requires “a substrate including reading means for reading the electric signals, the carrier being mobile relative to the substrate, *the reading means being mobile.*” (Claim 75, portions omitted, emphasis added.)

Applicants’ specification explains on p. 5, ll. 12-15 that the reading means can be conductor pads or conductor zones of the substrate able to enter into contact with other conductor zones of the carrier conveying an electronic measurement signal. At p. 7, ll. 1-5 of the specification it is further explained that one embodiment of the invention consists in a

reading means that can move. In addition, the specification further provides an example how the reading means can move, and states:

The conductor pads 225 acting as reading means are replaced by other pads 228 e.g. containing a core in a piezoelectric material such as quartz, coated with a thin conductive layer. These pads may elongate under the action of an electric voltage ...

... Subsequently, so that the detection device can change over to reading position, an electric voltage is applied on the piezoelectric material forming the core of the pads 228. The pads then lengthen to come into contact with the conductor zones 125. The membrane 200 is then held in suspension but moves by means of flexible rods.

(Specification, p. 24, ll. 1-5, and ll. 18-25.) Figures 8A and 8B further support these descriptions in the specification. In other words, the pads 228 of Figures 8A and 8B show an example of “reading means being mobile,” as required by Applicants’ Claim 75. An example of the mobility of the reading means is the lengthening and retracting by a piezo-electric action.

In light of the above explanations, it is believed that the feature “reading means being mobile” of Applicants’ Claim 75 finds support in the specification, and also conveys to one of ordinary skill in the art that Applicants had possession of the invention at time of filing, and therefore the rejection under 35 U.S.C. § 112, first paragraph, is traversed. In addition, Applicants submit that the example given on page 24 regarding the piezo-electric lengthening has been given for explanatory purposes only, and is not intended to limit the scope of the claims in any fashion.

In response to the rejection of independent Claim 38 under 35 U.S.C. § 103(a), Applicants respectfully request reconsideration of this rejection and traverse the rejection, as discussed next.

Briefly summarizing, Applicants’ Claim 38 is directed to a device for measuring radiant energy. The device includes, *inter alia*: a carrier including first device allowing

absorption of radiant energy, and second device enabling provision of one or more electric signals in relation to the absorbed radiant energy; and a substrate including a reading device for reading the electric signals. In addition, *the substrate surrounds the carrier and is mechanically joined to the substrate by a suspending means*, the carrier being mobile relative to the substrate, and *being able to move along an horizontal plane in parallel to the carrier*.

Turning now to the applied references, Reed is directed to a infrared sensing apparatus 101 that has a suspended platform including a sensor member 120 operatively connected to a levitation mechanism 140, to reduce the loss of IR energy, which normally dissipates in the form of heat. (Reed, Abstract, p. 3, ¶ [0054], Figs. 4A-4B.) As further explained in Reed, mechanism 140 can levitate the sensor member 120 *vertically* to a proximately spaced position from a substrate 110. (Reed, p. 3, ¶ [0054], ll. 7-14.) In another embodiment, Reed explains that the sensing apparatus 101 can have support structures 241, 242 to establish proximate spacing of the sensor member 120 to the substrate 110, when the sensor member 120 is not in contact with substrate 110. (Reed, p. 4, ¶ [0058], Figs. 5A, 5B.) Reed uses the structures 241, 242 so that the sensor member 120 has a defined vertical position relative the substrate 110, when used to absorb radiation. (Reed, p. 4, ¶ [0058], ll. 11-21. Figs. 5A, 5B.) In this respect, Reed explains that:

The shift actuator 243 being based on the parallel plate capacitor effect. Upon actuation of the shift actuator 243, the support structures 241, 242 yield to the electrostatic forces exerted by the capacitor plates 245, 246 allowing the sensor member 120 to be pulled in physical contact with said readout circuit 130.

(Reed, ¶ [0058], ll. 21-27.)

In other words, in Reed's embodiment depicted in Figures 5A and 5B, the sensor 120 can move vertically up and down, and can be held to a defined position by means of the flexible structures 241, 242, when the sensor 120 is not in contact with substrate 110.

The pending Office Action admits that Reed fails to teach “the substrate surrounds the carrier ... [the carrier] able to move along an horizontal plane in parallel to the carrier” as required by Applicants’ Claim 38. (Office Action, p. 4, ll. 4-5.) Indeed, Reed fails to teach any parallel movement in a horizontal plane of his sensor 120 at all, and also fails to teach that his substrate 110 surrounds the sensor 120. But the Office Action still rejects these features as being obvious, and asserts that the structures 241, 242 are designed “to prevent heat leak from the sensor membrane in order to maximize the sensor’s sensitivity of IR radiation absorbed by 120 by nearly isolating the membrane.” (Office Action, p. 4, ll. 6-9.)

Applicants submit the pending Office Action merely argued that one of the goals or intended uses of Applicants’ Claim 38 feature may be similar to the intended use of the structures 241, 242. However, the features of Claim 38 are *structurally different* from the structures 241, 242, and the features of Claim 38 are neither taught nor suggested by Reed. Reed clearly explains that he is interested in providing a levitation mechanism for isolating the sensor from the substrate during energy absorption. (Reed, p. 4, ¶¶ [0011]-[0012].) Nowhere Reed suggests a parallel movement in a horizontal plane to the carrier. Even if Reed would suggest such parallel movement, Claim 38 requires structural features that are not shown in Reed, as discussed above, regarding the substrate surrounding the sensor. Therefore, the pending Office Action has not provided an articulate reasoning for the obviousness. *KSR v. Teleflex*, 550 U.S. ___, 127 S. Ct. 1727, 82 U.S.P.Q.2d 1385 (2007). In order to reject a claim, every feature has to be shown in the applied reference.

In case the pending Office Action is attempting to reject the claims based on inherency, this rejection is also improper. To show inherency of the features of Applicants’ Claim 38, the U.S.P.T.O. has to show “that the alleged inherent characteristic *necessarily*

flows from the teachings of the applied references.”¹ The Office Action has made no such showing, because Claim 38 is directed to parallel movement of the carrier in a horizontal plane, and has features that are not taught by Reed.

Therefore, the cited passages of Reed fail to teach every feature recited in Applicants’ Claim 38 and the features are also not obvious in light of Reed, so that Claims 38-74 are believed to be patentably distinct over Reed. Accordingly, Applicants respectfully traverse, and request reconsideration of the rejection based on Reed.

The reference Belcher, used by the pending Office Action to form a 35 U.S.C. § 103(a) rejection, fails to remedy the deficiencies of Reed, even if we assume that such a combination is proper. (Office Action, p. 9, ll. 1-12.) Belcher is directed to a thermal imaging system 20 where a thermal isolation structure 50 is disposed on an integral circuit substrate 70 for electrically bonding a focal plane area. (Belcher, Abstract, ll. 1-6, Figs. 3-4.) However, the cited passages of Belcher fail to teach anything related to the substrate and the carrier, as recited in Applicants’ independent Claim 38.

Moreover, Applicants respectfully traverse the rejection of Applicants’ dependent claims. In particular, dependent Claims 40 and 41 require “reading means being mobile.” As discussed above, this feature is clearly supported in Applicants’ disclosure as originally filed, and is also not taught by Reed. Reed explains that read-out contacts 131, 132 are fixedly attached to the substrate 110. (Reed, Figs. 4B, 6A.) Read-out contacts 131, 132 provide signals to the read-out electronics 130, all integrated into the substrate 110. (Reed, Fig. 6A, ¶ [0065]).

¹See MPEP 2112 (emphasis in original) (citation omitted). See also same section stating that “[t]he fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic,” (emphasis in original). See also In re Robertson, 49 USPQ2d 1949, 1951 (Fed. Cir. 1999) (“[t]o establish inherency, the extrinsic evidence ‘must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill,’” citing Continental Can Co. v. Monsanto Co., 948 F2d 1264, 1268, 20 USPQ2d 1746, 1749 (Fed. Cir. 1991); and “[i]nherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient,” Id. at 1269 (citation omitted)).

In addition, Applicants traverse the rejection of their dependent Claim 63. Dependent Claim 63 recites “the actuating means is piezoelectric, the reading means being configured to lengthen to enter into contact with the carrier.” The pending Office Action rejects this feature by pointing out to a passage in Reed where it is stated that the levitation that can be performed with electromagnetic fields, such as electrostatic forces and magnetostatic forces.” (Office Action, from p. 7, l. 21, to p. 8, l. 3, pointing out to Reed at paragraph [0011]). Applicants disagree with such reasoning. Not only does Claim 63 require a piezoelectric element that is clearly not disclosed in Reed, but also it describes a structural arrangement, “configured to lengthen to enter into contact with the carrier.” This features are not taught by Reed, and are also not obvious, as discussed above.

Therefore, in light of the above discussion, Applicants respectfully traverse the rejections of the dependent claims, and request reconsideration thereof.

The present amendment is submitted in accordance with the provisions of 37 C.F.R. § 1.116, which after Final Rejection permits entry of amendments placing the claims in better form for consideration on appeal. As the present amendment is believed to overcome outstanding rejections under 35 U.S.C. § 112, first paragraph, and 35 U.S.C. § 103(a), the present amendment places the application in better form for consideration on appeal. In addition, the present amendment does not raise new issues because the changes to Claims 38 merely correct a minor informality identified in the pending Office Action. It is therefore respectfully requested that 37 C.F.R. § 1.116 be liberally construed, and that the present amendment be entered.

Should the Examiner continue to disagree with the above distinctions, Applicants respectfully request that the Examiner provide an explanation via Advisory Action pursuant to M.P.E.P. § 714.13 specifically rebutting the points raised herein for purposes of facilitating the continued prosecution or the appeal process.

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal Allowance. A Notice of Allowance for Claims 38-96 is earnestly solicited.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact Applicants' undersigned representative at the below listed telephone number.

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